

What is claimed is:

1. A conveyor system comprising:
  - a conveyor frame supporting a conveying surface;
  - at least one motor at said frame, said motor configured to cause articles placed in at least one location on said conveying surface to be transported when said motor is energized;
  - a control circuit at said frame;
  - a first power source housed within said frame and in electrical communication with said at least one motor, said first power source supplying power to said at least one motor; and
  - a second power source housed within said frame and in electrical communication with said control circuit, said second power source supplying power to said control circuit, said second power source being electrically isolated from said first power source such that electrical current from said first power source can be shut off without shutting off electrical current from said second power source.
2. The conveyor system of claim 1 wherein said control circuit includes a motor controller adapted to control said motor, said motor controller receiving electrical power from said second power source.
3. The conveyor system of claim 2 wherein said control circuit includes a sensor that is adapted to detect an article on the conveyor, wherein said motor controller is adapted to control said motor in response to said sensor detecting an article.
4. The conveyor system of claim 2 wherein said control circuit further includes an upper-level controller in communication with said motor controller, said upper-level controller adapted to send commands to said motor controller to cause said motor controller to control said motor, said upper-level controller receiving power from said second power source.
5. The conveyor system of claim 4 wherein said conveyor includes a plurality of motors and a plurality of motor controllers, said upper-level controller in

communication with said plurality of motor controllers and adapted to send commands to said plurality of motor controllers to cause said plurality of motor controllers to control said motors.

6. The conveyor system of claim 3 wherein said sensor is a photo-eye adapted to detect the presence of an article positioned on said conveyor.

7. The conveyor system of claim 1 wherein said first power source supplies electrical current at a first voltage and said second power source supplies electrical current at a second voltage, said second voltage being different from said first voltage.

8. The conveyor system of claim 1 further including at least one switch adapted to selectively stop electrical power from being delivered to said first power source.

9. The conveyor system of claim 8 wherein said at least one switch includes a button positioned adjacent said conveyor, said button able to be pushed by a person to stop electrical power from being delivered from said first power source.

10. The conveyor system of claim 1 further including a transformer in electrical communication with said first power source, said transformer causing said first power source to deliver power to said motor at a particular voltage.

11. The conveyor system of claim 10 wherein said first power source includes a rectifier that rectifies alternating current to direct current at a particular voltage before being supplied to said motor.

12. The conveyor system of claim 11 wherein said particular voltage is 48 volts.

13. The conveyor system of claim 11 further including a transformer in electrical communication with said second power source, said transformer causing said second power source to deliver power to said control circuit at another voltage that is different from said particular voltage.

14. The conveyor system of claim 1 wherein said first power source is supplied with electrical power from a first power line and said second power source is supplied with electrical power from a second power line.
15. The conveyor system of claim 14 wherein at least one end of each of said first and second power lines is adapted to be connected to an adjacent conveyor bed and to supply power to said adjacent conveyor bed.
16. The conveyor system of claim 14 wherein said first and second power lines run for substantially the entire length of said frame and are enclosed within a side channel defined in said frame.
17. The conveyor system of claim 14 wherein at least one of said first and second power lines is a three-phase power line.
18. The conveyor system of claim 17 wherein said at least one of said first and second power lines is an alternating current line having a voltage of at least 220 volts.
19. The conveyor system of claim 18 wherein said conveyor is adapted to supply electrical power having a voltage of at least 220 volts to an adjacent conveyor.
20. The conveyor system of claim 14 wherein said first power line comprises a first electrical cable and said second power line comprises a second electrical cable.
21. The conveyor system of claim 1 further including a conveyor belt in operational contact with said motor, said conveyor belt providing a conveying surface on which articles may be carried, said conveyor belt adapted to move articles carried on said conveying surface when said motor is activated.
22. The conveyor system of claim 1 further including a plurality of rollers supported by said frame, said rollers adapted to rotate and move articles carried on said rollers when said motor is activated.

23. The conveyor system of claim 1 wherein said conveyor includes a plurality of motors, a plurality of motor controllers, and a plurality of upper-level controllers, each of said motor controllers communicating with at least one upper-level controller over a first communications bus, and each of said upper-level controllers communicating with each other over a second communications bus, said second communications bus is different from said first communications bus.

24. A conveyor system comprising:  
a conveyor frame supporting a conveying surface;  
at least one motor at said frame, said motor configured to cause articles placed in at least one location on said conveying surface to be transported when said motor is energized;  
a first power line housed within said frame;  
a second power line housed within said frame;  
a first power supply supported by said frame and in electrical communication with said first power line, said first power supply adapted to supply electrical current at a first voltage to said at least one motor;  
a motor controller supported by said frame, said motor controller adapted to control said at least one motor;  
a second power supply supported by said frame and in electrical communications with said second power cable, said second power supply adapted to supply electrical current at a second voltage level to said motor controller; and  
a power interface positioned adjacent a first end of said frame, said power interface in electrical communication with said first and second power lines and adapted to allow power to be supplied to an adjacent conveyor.

25. The conveyor system of claim 24 wherein said power line supplies to said first power supply a peak-to-peak value of at least 200 volts.

26. The conveyor system of claim 24 wherein said first power line includes at least three wires carrying three-phase alternating current.

27. The conveyor system of claim 26 wherein said first power supply supplies at least 48 volts.

28. The conveyor system of claim 24 further including a power inlet adjacent a second end of said frame, said power inlet in electrical communication with said first and second power lines and adapted to allow electrical power to be supplied to said first and second power lines from an adjacent conveyor.

29. The conveyor system of claim 24 further including at least one switch adapted to selectively stop electrical power from being delivered to said first power supply.